



9.37 Township of Roxbury

This section presents the jurisdictional annex for the Township of Roxbury.

9.37.1 Hazard Mitigation Plan Point of Contact

The following individuals have been identified as the hazard mitigation plan's primary and alternate points of contact.

Primary Point of Contact	Alternate Point of Contact
Name: Michael Kobylarz Address: 1715 Route 46, Ledgewood, NJ 07852 Phone: 973-448-2018 E-mail: kobylarz@roxburynj.us	Name: Richard Blood Address: 96 N. Dell Avenue, Kenil, NJ 07847 Phone: 973-448-2069 E-mail: bloodr@roxburynj.us

9.37.2 Municipal Profile

The Township of Roxbury comprises 21.93 square miles and is located in the western portion of Morris County and the New Jersey Highlands Region. The Township is linked to the County and the region via a highway network that includes Interstate 80 and State Routes 10, 46, and 206. The Township shares its borders with nine municipalities, all but one of which are located in Morris County. The Borough of Hopatcong (Sussex County) is to the north of Roxbury. The communities of Netcong, Mount Olive, Chester Township, Randolph, Mine Hill, Wharton, Jefferson and Mount Arlington all surround Roxbury Township. The Township of Roxbury contains several unincorporated communities and neighborhoods: Kenil, Succasunna, Berkshire Valley, Landing, Ledgewood and Port Morris. Major bodies of water in the Township include Lamington River, Drakes Brook, Succasunna Brook, Rockaway River, a portion of Lake Hopatcong, Horseshoe Lake, Triple Lakes, and Chesler Lake. According to the U.S. Census, the 2010 population for the Township of Roxbury was 23,324.

Growth/Development Trends

The following table summarizes recent residential/commercial development since 2010 to present and any known or anticipated major residential/commercial development and major infrastructure development that has been identified in the next five years within the municipality. Refer to the map in Section 9.37.8 of this annex which illustrates the hazard areas along with the location of potential new development.

Table 9.37-1. Growth and Development

Property or Development Name	Type (e.g. Res., Comm.)	# of Units / Structures	Location (address and/or Block & Lot)	Known Hazard Zone(s)	Description/Status of Development
Recent Development from 2010 to present					
KPM Realty	Commercial	100,000 SF warehouse/office	Block 9601, Lot 1	None	90% complete
Ralzone Development	Residential	6 single family homes	Block 4305, Lot 12	NEHRP: D	80% complete
Roxbury Enterprises	Commercial	11,500 SF commercial/retail	Block 5002, Lot 3	NEHRP: D; Karst Hazard	75% complete
Known or Anticipated Development in the Next Five (5) Years					
Villages @ Roxbury	Residential	161 single family homes	Block 11201, Lots 1, 3, & 13	NEHRP: D	Some utility infrastructure installed. Project currently on hold.



Table 9.37-1. Growth and Development

Property or Development Name	Type (e.g. Res., Comm.)	# of Units / Structures	Location (address and/or Block & Lot)	Known Hazard Zone(s)	Description/Status of Development
Roxwood Assoc., LLC	Residential	230 apts.	Block 9302, Lot 1	None	Requires amended approval
Dellamo	Residential	35 apts.	Block 6101, Lot 4	Flood: 1% Chance; NEHRP: D; Karst Hazard	Project currently on hold
Renaissance Village Assoc.	Residential	35 apts.	Block 6201, Lot 5.01	Flood: 1% Chance; NEHRP: D; Karst Hazard	Requires amended approval

* Only location-specific hazard zones or vulnerabilities identified.

9.37.3 Natural Hazard Event History Specific to the Municipality

Morris County has a history of natural and non-natural hazard events as detailed in Volume I, Section 5.0 of this plan. A summary of historical events is provided in each of the hazard profiles and includes a chronology of events that have affected the County and its municipalities. For the purpose of this plan update, events that have occurred in the County from 2008 to present were summarized to indicate the range and impact of hazard events in the community. Information regarding specific damages is included, if available, based on reference material or local sources. This information is presented in the table below. For details of these and additional events, refer to Volume I, Section 5.0 of this plan.

Table 9.37-2. Hazard Event History

Dates of Event	Event Type	FEMA Declaration # (If Applicable)	County Designated?	Summary of Damages/Losses
February 12, 2008	Winter Storm	N/A	N/A	Due to the snow accumulation from this event, the Township had significant snow removal and salting required that cost \$59,226.
October 28, 2008	Heavy Rain, Snow, Strong Wind	N/A	N/A	This event resulted in snow removal and salt spreading in the Township. There were also downed trees and power lines that required DPW, Police and Fire Department assistance for removal, costing the Township \$8,782.
March 12 – April 15, 2010	Severe Weathers and Flooding	DR-1897	Yes	Heavy rains and wind caused significant number of downed trees, power lines, alarm calls, flooding and basement pump outs. Assistance provided by DPW, Police and Fire Depts. Tree removal required assistance from private contractors. Costs to the Township were \$8,741.
December 26-27, 2010	Severe Winter Weather and Snowstorm	DR-1954	Yes	Due to the snow from this event, it required significant snow removal and salting from the Township. Heavy equipment was necessary to open intersections. Costs to the Township were \$47,232.
February 1, 2011	Winter Storm	N/A	N/A	This storm resulted in snow removal and salting in the Township. It was a record high salt use event and cost the Township \$60,840.



Table 9.37-2. Hazard Event History

Dates of Event	Event Type	FEMA Declaration # (If Applicable)	County Designated?	Summary of Damages/Losses
August 26 – September 5, 2011	Hurricane Irene	EM-3332 DR-4021	Yes Yes	Heavy rains and wind caused significant number of downed trees, power lines and alarm calls. Assistance provided by DPW, Police and Fire Depts. Township experienced road closures due to flooding and downed trees. Flooding caused damage at Kiwanis Park and necessitated the evacuation of a family on Main St., Ledgewood. Costs to the Township were \$78,000.
October 29, 2011	Severe Weather	DR-4048	Yes	Heavy snow on trees with full foliage coupled with high winds caused a significant number of downed trees, power lines, and alarm calls. Assistance provided by DPW, Police and Fire Depts. Many areas of the Township were without power for days. Snow removal required heavy equipment to open intersections. Roadside debris removal required 10 weeks to complete. Tree removal required assistance from private contractors. Costs to the Township were \$208,700.
October 26 – November 8, 2012	Hurricane Sandy	EM-3354 DR-4086	Yes Yes	Heavy rains and wind caused significant number of downed trees, power lines and alarm calls. Most of Township was without power for 10 days. Assistance provided by DPW, Police and Fire Depts. Debris removal required 5 months. Costs to the Township were \$256,300.

9.37.4 Hazard Vulnerabilities and Ranking

The hazard profiles in Section 5.0 of this plan have detailed information regarding each plan participant's vulnerability to the identified hazards. The following summarizes the hazard vulnerabilities and their ranking in the Township of Roxbury. For additional vulnerability information relevant to this jurisdiction, refer to Section 5.0.

Hazard Risk/Vulnerability Risk Ranking

The table below summarizes the hazard risk/vulnerability rankings of potential hazards for the Township of Roxbury.

Table 9.37-3. Hazard Risk/Vulnerability Risk Ranking

Hazard type	Estimate of Potential Dollar Losses to Structures Vulnerable to the Hazard ^{a, c}	Probability of Occurrence	Risk Ranking Score (Probability x Impact)	Hazard Ranking ^b
Drought	Damage estimate not available	Frequent	27	Medium
Dam Failure	Damage estimate not available	Rare	6	Low
Earthquake	500-year MRP: \$5,889,904 2,500-year MRP: \$99,463,163	Occasional	32	High



Hazard type	Estimate of Potential Dollar Losses to Structures Vulnerable to the Hazard ^{a, c}	Probability of Occurrence	Risk Ranking Score (Probability x Impact)	Hazard Ranking ^b
Extreme Temperature	Damage estimate not available	Frequent	18	Medium
Flood	1% Annual Chance: \$101,022	Occasional	12	Low
Geological Hazards	Exposed to Class A and Class B: \$8,029,249	Frequent	18	Medium
Severe Storm	100-Year MRP: \$3,722,591 500-year MRP: \$30,589,358 Annualized: \$211,190	Frequent	48	High
Winter Storm	1% GBS: \$66,010,937 5% GBS: \$330,054,683	Frequent	54	High
Wildfire	Estimated Value Exposed to Extreme, Very High and High: \$14,271,679	Frequent	18	Medium
Disease Outbreak	Damage estimate not available	Frequent	36	High
Hazardous Materials	Damage estimate not available	Frequent	36	High
Infestation	Damage estimate not available	Frequent	18	Medium

Notes:

- Building damage ratio estimates based on FEMA 386-2 (August 2001)
- The valuation of general building stock and loss estimates was based on custom inventory for the municipality.
High = Total hazard priority risk ranking score of 31 and above
Medium = Total hazard priority risk ranking of 20-30+
Low = Total hazard risk ranking below 20
- Loss estimates for the Severe Weather and Severe Winter Weather hazards are structural values only and do not include the value of contents.
- Loss estimates for the flood and earthquake hazards represent both structure and contents.
- The HAZUS-MH earthquake model results are reported by Census Tract.

National Flood Insurance Program (NFIP) Summary

The following table summarizes the NFIP statistics for the Township of Roxbury.

Table 9.37-4. NFIP Summary

Municipality	# Policies (1)	# Claims (Losses) (1)	Total Loss Payments (2)	# Rep. Loss Prop. (1)	# Severe Rep. Loss Prop. (1)	# Policies in 100-year Boundary (3)
Township of Roxbury	67	18	\$89,403.06	0	0	4

Source: FEMA Region 2, 2014

- Policies, claims, repetitive loss and severe repetitive loss statistics provided by FEMA Region 2, and are current as of 9/30/2014. Please note the total number of repetitive loss properties includes the severe repetitive loss properties. The number of claims represents claims closed by 9/30/14.
 - Total building and content losses from the claims file provided by FEMA Region 2.
 - The policies inside and outside of the flood zones is based on the latitude and longitude provided by FEMA Region 2 in the policy file.
- Notes: FEMA noted that where there is more than one entry for a property, there may be more than one policy in force or more than one GIS possibility.
A zero percentage denotes less than 1/100th percentage and not zero damages or vulnerability as may be the case.
Number of policies and claims and claims total exclude properties located outside County boundary, based on provided latitude and longitude.



Critical Facilities

The table below presents HAZUS-MH estimates of the damage and loss of use to critical facilities in the community as a result of a 1- and 0.2-percent annual chance flood events.

Table 9.37-5. Potential Flood Losses to Critical Facilities

Name	Type	Exposure		Potential Loss from 1% Flood Event		
		1% Event	0.2% Event	Percent Structure Damage	Percent Content Damage	Days to 100-Percent ⁽¹⁾
Lake Hopatcong Dam	Dam	X	X	-	-	-
Roxbury Township Hall	EOC/Municipal Hall		X	-	-	-

Source: HAZUS-MH 2.1

Note (1): HAZUS-MH 2.1 provides a general indication of the maximum restoration time for 100% operations. Clearly, a great deal of effort is needed to quickly restore essential facilities to full functionality; therefore this will be an indication of the maximum downtime (HAZUS-MH 2.1 User Manual).

Note (2): In some cases, a facility may be located in the DFIRM flood hazard boundary; however HAZUS did not calculate potential loss. This may be because the depth of flooding does not amount to any damages to the structure according to the depth damage function used in HAZUS for that facility type. Further, HAZUS-MH may estimate potential damage to a facility that is outside the DFIRM because the model generated a depth grid beyond the DFIRM boundaries.

NA Not available

X Facility located within the DFIRM boundary

- Not calculated by HAZUS-MH 2.1

Other Vulnerabilities Identified

According to the preliminary 2010 FEMA Flood Insurance Study (FIS) for Morris County, the history of flooding in the Township of Roxbury indicates that flooding of various origins may be experience at any time of the year. The more extensive floods in the Township have occurred during the late summer and early fall. The streams and rivers found in the Township contribute to the South Branch Raritan River basin, the Musconetcong River basin or the Lamington River basin (FEMA FIS 2010).

Additionally, the Township has identified the following vulnerable areas in the Township:

- Drakes Brook Stream Corridor
- Succasunna Brook Stream Corridor

9.37.5 Capability Assessment

This section identifies the following capabilities of the local jurisdiction:

- Planning and regulatory capability
- Administrative and technical capability
- Fiscal capability
- Community classification
- National Flood Insurance Program
- Integration of Mitigation Planning into Existing and Future Planning Mechanisms

Planning and Regulatory Capability

The table below summarizes the regulatory tools that are available to the Township of Roxbury.



Table 9.37-6. Planning and Regulatory Tools

Tool / Program (code, ordinance, plan)	Do you have this? (Yes/No) If Yes, date of adoption or update	Authority (local, county, state, federal)	Dept. /Agency Responsible	Code Citation and Comments (Code Chapter, name of plan, explanation of authority, etc.)
Planning Capability				
Master Plan	Yes July 11, 2000	Local	Planning Board	
Capital Improvements Plan	Yes	Local	Manager	Updated annually
Floodplain Management / Basin Plan	Yes	State/Local	Planning Board	Land Development Ord. Section 13-7.823
Stormwater Management Plan	Yes December 2006	Local	Planning Board	Township of Roxbury Municipal Stormwater Management Plan
Open Space Plan	Yes August 2011	Local	Planning Board	Open Space and Recreation Plan Update
Stream Corridor Management Plan	No			
Watershed Management or Protection Plan	No			
Economic Development Plan	No			
Comprehensive Emergency Management Plan	Yes	Local	OEM / Engineer	MUNICIPAL EOP
Emergency Response Plan	Yes	Local	OEM / Engineer	MUNICIPAL EOP
Post-Disaster Recovery Plan	Yes	Local	OEM / Engineer	MUNICIPAL EOP
Transportation Plan	No			
Strategic Recovery Planning Report	Yes	Local	OEM / Engineer	MUNICIPAL EOP
Other Plans:				
Regulatory Capability				
Building Code	Yes	State & Local	Building Code Official	State Uniform Construction Code Act (N.J.S. 52:27D-119 et seq.) Chapter IX of Revised General Ordinance
Zoning Ordinance	Yes	Local	Zoning Board	Chapter XIII of Revised General Ordinance, Article VII, Section 13-7.1
Subdivision Ordinance	Yes	Local	Zoning Board	Chapter XIII of Revised General Ordinance, Article III, Section 13-3.1
NFIP Flood Damage Prevention Ordinance	Yes	Federal, State, Local	Construction Code Official	Chapter XIII of Revised General Ordinance, Article III, Section 13-7.823
NFIP: Cumulative Substantial Damages	No			
NFIP: Freeboard	Yes	Federal, State, Local	Construction Code Official	Chapter XIII of Revised General Ordinance, Article III, Section 13-7.824
Growth Management Ordinances	No			
Site Plan Review Requirements	Yes	Local	Zoning Board	Chapter XIII of Revised General Ordinance, Article III, Section 13-3.1



Tool / Program (code, ordinance, plan)	Do you have this? (Yes/No) If Yes, date of adoption or update	Authority (local, county, state, federal)	Dept. /Agency Responsible	Code Citation and Comments (Code Chapter, name of plan, explanation of authority, etc.)
Stormwater Management Ordinance	Yes	Local	Engineer	Chapter XIII of Revised General Ordinances, Section 13-8.4
Municipal Separate Storm Sewer System (MS4)	Yes	Local	Engineer	Chapter III of Revised General Ordinances, Section 3-25 Chapter XXII of Revised General Ordinances, Section 22-7.10
Natural Hazard Ordinance	No			
Post-Disaster Recovery Ordinance	No			
Real Estate Disclosure Requirement	Yes	State	Division of Consumer Affairs	N.J.A.C. 13:45A-29.1
Other [Special Purpose Ordinances (i.e., sensitive areas, steep slope)]	N/A			

Administrative and Technical Capability

The table below summarizes potential staff and personnel resources available to the Township of Roxbury.

Table 9.37-7. Administrative and Technical Capabilities

Resources	Is this in place? (Yes or No)	Department/ Agency/Position
Administrative Capability		
Planning Board	Yes	Planning
Mitigation Planning Committee	No	
Environmental Board/Commission	Yes	Planning
Open Space Board/Committee	Yes	Planning
Economic Development Commission/Committee	Yes	Planning
Maintenance Programs to Reduce Risk	No	
Mutual Aid Agreements	No	
Technical/Staffing Capability		
Planner(s) or Engineer(s) with knowledge of land development and land management practices	Yes	Planning/Engineering
Engineer(s) or Professional(s) trained in construction practices related to buildings and/or infrastructure	Yes	Construction
Planners or engineers with an understanding of natural hazards	Yes	Russell Stern, P.P.
NFIP Floodplain Administrator	Yes	Michael Kobylarz, Township Engineer
Surveyor(s)	No	
Personnel skilled or trained in GIS and/or HAZUS-MH applications	Yes	Engineering Dept. staff
Scientist familiar with natural hazards	No	
Emergency Manager	No	
Grant Writer(s)	Yes	Township staff



Resources	Is this in place? (Yes or No)	Department/ Agency/Position
Staff with expertise or training in benefit/cost analysis	No	
Professionals trained in conducting damage assessments	No	

Fiscal Capability

The table below summarizes financial resources available to the Township of Roxbury.

Table 9.37-8. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use (Yes/No/Don't Know)
Community development Block Grants (CDBG, CDBG-DR)	Yes
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for specific purposes	Yes
User fees for water, sewer, gas or electric service	Yes
Impact Fees for homebuyers or developers of new development/homes	No
Stormwater Utility Fee	No
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	No
Incur debt through private activity bonds	No
Withhold public expenditures in hazard-prone areas	No
Other Federal or State Funding Programs	Yes
Open Space Acquisition Funding Programs	Yes
Other	No

Community Classifications

The table below summarizes classifications for community program available to the Township of Roxbury.

Table 9.37-9. Community Classifications

Program	Do you have this? (Yes/No)	Classification (if applicable)	Date Classified (if applicable)
Community Rating System (CRS)	No	N/A	N/A
Building Code Effectiveness Grading Schedule (BCEGS)	No		
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes	TBD	TBD
Storm Ready	No	N/A	N/A
Firewise	No	N/A	N/A
Disaster/Safety Programs in/for Schools	Yes	N/A	Roxbury High School Emergency Operations Crisis Plan 2014-2015 (approved August 7, 2014)
Organizations with Mitigation Focus (advocacy group, non-government)	No		
Public Education Program/Outreach (through website, social media)	Yes	N/A	N/A
Public-Private Partnerships	No		

N/A = Not applicable. NP = Not participating. - = Unavailable. TBD = To be determined.



The classifications listed above relate to the community's ability to provide effective services to lessen its vulnerability to the hazards identified. These classifications can be viewed as a gauge of the community's capabilities in all phases of emergency management (preparedness, response, recovery, and mitigation) and are used as an underwriting parameter for determining the costs of various forms of insurance. The CRS class applies to flood insurance while the BCEGS and Public Protection classifications apply to standard property insurance. CRS classifications range on a scale of 1 to 10 with class 1 being the best possible classification, and class 10 representing no classification benefit. Firewise classifications include a higher classification when the subject property is located beyond 1,000 feet of a creditable fire hydrant and is within five road miles of a recognized Fire Station.

Criteria for classification credits are outlined in the following documents:

- The Community Rating System Coordinators Manual
- The Building Code Effectiveness Grading Schedule
- The ISO Mitigation online ISO's Public Protection website at <http://www.isomitigation.com/ppc/0000/ppc0001.html>
- The National Weather Service Storm Ready website at <http://www.weather.gov/stormready/howto.htm>
- The National Firewise Communities website at <http://firewise.org/>

Self-Assessment of Capability

The table below provides an approximate measure of Roxbury's capability to work in a hazard-mitigation capacity and/or effectively implement hazard mitigation strategies to reduce hazard vulnerabilities.

Table 9.37-10. Self-Assessment Capability for the Municipality

Area	Degree of Hazard Mitigation Capability		
	Limited (If limited, what are your obstacles?)*	Moderate	High
Planning and Regulatory Capability			X
Administrative and Technical Capability			X
Fiscal Capability	Limited on tax increase		
Community Political Capability		X	
Community Resiliency Capability		X	
Capability to Integrate Mitigation into Municipal Processes and Activities.		X	



National Flood Insurance Program

NFIP Floodplain Administrator

Mr. Michael Kobylarz, Township Engineer

Flood Vulnerability Summary

The Township of Roxbury does not maintain lists/inventories of properties that have been damaged by floods. During Sandy or other recent events, substantial damage estimates were not conducted for any structures and structures were not damaged in the Township. There are currently no properties interested in mitigation or currently in the process of mitigation.

Resources

Township staff support the NFIP FPA with responsibilities of floodplain administration. Services and functions the FPA and staff provide to the Township include record keeping. Currently, the Township does not provide any educational programs or outreach to the community in regards to flood hazards/risk or flood risk reduction through NFIP, mitigation, etc.

The FPA indicates that he does not feel adequately supported and trained to fulfill his responsibilities as the municipal floodplain administrator. He would consider attending continuing education and/or certification training on floodplain management if offered.

Compliance History

The Township of Roxbury is currently in good-standing with the NFIP. It is unknown as to when the most recent compliance audit was conducted.

Regulatory

Township floodplain management regulations/ordinances do not exceed the FEMA and State minimum requirements. There are other local Township ordinances, plans and programs that support floodplain management and meet NFIP requirements.

The Township of Roxbury does not participate in the Community Rating System (CRS) program; however, the Township has considered joining the program.

Integration of Hazard Mitigation into Existing and Future Planning Mechanisms

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into the day-to-day local government operations. As part of this planning effort, each community was surveyed to obtain a better understanding of their community's progress in plan integration. A summary is provided below. In addition, the community identified specific integration activities that will be incorporated into municipal procedures.

Planning

The Township of Roxbury currently has a Comprehensive Master Plan and are currently working on the 2015 Master Plan Reexamination Report. The Master Plan does not refer to the Morris County HMP. The Township zoning ordinance includes provisions regarding steep slopes, stormwater management, and floodplain areas.

The Township is a MS4 regulated community and has a formal stormwater management plan. Plan specifies projects, actions, and initiatives to reduce the volume of stormwater or mitigate stormwater flooding.



Additionally, the Township has a Growth Plan, Economic Development Plan, and Open Space Plan. All three plans help to manage natural hazard risk by preventing development in and help preserve environmentally sensitive lands. The Township requires developers to complete a Letter of Interpretation (LOI) or flood hazard determination if there is any question regarding wetlands or flood areas on the proposed area to be developed.

Regulatory and Enforcement

The Township's zoning and subdivision regulations consider natural hazard risk. The Planning and Zoning Boards have a wetland overlay on the planning/zoning permit and board application computer program. The Township also has board members familiar with local wetland, flood, and other hazard areas within the Township of Roxbury.

Operational and Administration

The Township of Roxbury as a municipal planner, Mr. Russell Stern, P.P. He has 19 years of experience as the municipal planner and is very familiar with Township constraints. The Township of Roxbury has a Planning and Zoning Board made up of long-time residents of Roxbury. The board members are familiar with the sensitive or problem areas of the Township. As needed, the Board defers to the Township Planner and Engineer. The Planning Board is also very active in the preparation of the Township Master Plan. Township staff takes part in stormwater training and planning and zoning courses which supports natural hazard risk reduction. Township staff would benefit from additional training and/or certification such as NFIP Floodplain Management. Additionally, the Township Planner and Engineer attend seminars that support natural hazard risk reduction in the Township. This includes seminars sponsored by the New Jersey American Society of Landscape Architects, the New Jersey American Planning Association, and the Morris County Planning Department.

Fiscal

The Township of Roxbury has a Capital Improvement Budget which budgets funds for mitigation-related projects.

Education and Outreach

The Township provides public outreach with regards to natural hazards during Olde Suckasunny Day, which is held each year in Roxbury.

9.37.6 Mitigation Strategy and Prioritization

This section discusses past mitigations actions and status, describes proposed hazard mitigation initiatives, and prioritization.

Past Mitigation Initiative Status

The following table indicates progress on the community's mitigation strategy identified in the 2010 Plan. Actions that are carried forward as part of this plan update are included in the following subsection in its own table with prioritization. Previous actions that are now on-going programs and capabilities are indicated as such in the following table and may also be found under 'Capability Assessment' presented previously in this annex



Table 9.37-11. Past Mitigation Initiative Status

2010 Mitigation Action	Lead	Status	Describe Status	Next Step	Describe Next Step
Roxbury 1: Upgrade of Culvert at Hillside Avenue and Route 46 (recent replacement not adequate).	DPW/Morris Co.	No Progress	0% complete Project has not been pursued with Morris County	Include in 2015 HMP	Contact Morris County to determine feasibility of project
Roxbury 2: Retrofit roof to meet current snow load standards for Town Hall located on Route 46	Buildings and Grounds Department	In Progress	50% complete Insufficient Township funding to perform roof replacement	Discontinue	Project to be completed in 2015 using Township funding
Roxbury 3: Replacement backup power (generator) for Town Hall.	Buildings and Grounds Department	Complete	100% complete	Discontinue	
Roxbury 4: Comprehensive Emergency Planning revision for Roxbury Township.	OEM	No Progress	0% complete Project has not been pursued with OEM	Include in 2015 HMP	Project to be evaluated with OEM
Roxbury 5: Ledgewood Pond Dam Renovation.	Town Engineer	In Progress	50% complete Design completed, awaiting NJDEP permit approvals	Include in 2015 HMP	Project required to be completed by 2017 regardless of funding source.
Roxbury 6: Rehabilitation of sanitary manholes and mains to decrease storm water infiltration.	Town Engineer	In Progress	25% complete Project ongoing	Include in 2015 HMP	Project will continue to be completed in a phased approach regardless of funding source
Roxbury 7: Detention basin upgrade located at White Gate Road.	Town Engineer	No Progress	0% complete	Include in 2015 HMP	Project to be pursued in coming years.
Roxbury 8: Stream bank stabilization at Morning Side Drive.	Town Engineer	In Progress	50% completed. Design and permits in place	Discontinue	Construction to be performed in 2015 using Township funding
Roxbury 9: Conduct an inundation study of the Lake Hopatcong Dam.	Town Engineer	No Progress	0% completed Project has not been pursued with State of NJ	Include in 2015 HMP	Contact NJDEP to determine feasibility of project
Roxbury 10: Develop all-hazards public education and outreach program for hazard mitigation and preparedness.	County and Municipal OEM	No Progress	0% completed Project has not been pursued with OEM	Include in 2015 HMP	Contact OEM to determine necessary steps to develop and implement plan



Completed Mitigation Initiatives not Identified in the Previous Mitigation Strategy

The municipality has identified the following mitigation projects/activities that have also been completed but were not identified in the previous mitigation strategy in the 2010 Plan:

- Permanent emergency generator for potable water system well

Proposed Hazard Mitigation Initiatives for the Plan Update

The Township of Roxbury participated in a mitigation action workshop in January 2015 and was provided the following FEMA publications to use as a resource as part of their comprehensive review of all possible activities and mitigation measures to address their hazards: FEMA 551 ‘Selecting Appropriate Mitigation Measures for Floodprone Structures’ (March 2007) and FEMA ‘Mitigation Ideas – A Resource for Reducing Risk to Natural Hazards’ (January 2013).

Table 9.37-12 summarizes the comprehensive-range of specific mitigation initiatives the Township of Roxbury would like to pursue in the future to reduce the effects of hazards. Some of these initiatives may be previous actions carried forward for this plan update. These initiatives are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in municipal priorities. Both the four FEMA mitigation action categories and the six CRS mitigation action categories are listed in the table below to further demonstrate the wide-range of activities and mitigation measures selected.

As discussed in Section 6, 14 evaluation/prioritization criteria are used to complete the prioritization of mitigation initiatives. For each new mitigation action, a numeric rank is assigned (-1, 0, or 1) for each of the 14 evaluation criteria to assist with prioritizing your actions as ‘High’, ‘Medium’, or ‘Low.’ The table below summarizes the evaluation of each mitigation initiative, listed by Action Number.

Table 9.37-13 provides a summary of the prioritization of all proposed mitigation initiatives for the Plan update.



Table 9.37-12. Proposed Hazard Mitigation Initiatives

Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category	CRS Category
TRX-1 (former Roxbury 1)	Upgrade of Culvert at Hillside Avenue and Route 46 (recent replacement not adequate).	Existing	Flood, Severe Weather, Severe Winter Weather	G-3	Township Engineer	Periodic roadway flooding, loss of travel route	High (\$500,000)	FMA, PDM-C, and HMGP if available	Long Term	Low	SIP	PP
TRX-2 (former Roxbury 4)	Comprehensive Emergency Planning revision for Roxbury Township.	Existing	Flood, Severe Weather, Severe Winter Weather	G-3	OEM	Provide comprehensive planning document	\$300,000	NJDEP	Long Term	Med	LPR	PR
TRX-3 (former Roxbury 5)	Ledgewood Pond Dam Renovation.	Existing	Flood, Severe Weather, Severe Winter Weather	G-3	Township Engineer	Upgrade dam to current NJDEP standards and stabilize spillway	High (\$300,000)	NJDEP, USACE	Short Term	High	SIP	PP
TRX-4 (former Roxbury 6)	Rehabilitation of sanitary manholes and mains to decrease storm water infiltration.	Existing	Flood	G-3	Township Engineer	Reduce flows at our wastewater treatment plant thereby reducing cost regarding treatment and system operations	High (\$500,000)	PDM-C, HMGP	Short Term	High	SIP	PP
TRX-5 (former Roxbury 7)	Detention basin upgrade located at White Gate Road.	Existing	Flood, Severe Weather	G-3	Township Engineer	Erosion due to downstream flooding	High (\$150,000)	FMA, PDM-C and HMGP if available	Short Term	High	SIP	PP
TRX-6 (former Roxbury 9)	Conduct an inundation study of the Lake Hopatcong Dam.	Existing	Flood, Dam Failure	G-3	Town Engineer	Plan warning/evacuation system for impacted residents	\$250,000	NJDEP/USACE	Long Term	Med	LPR	PR
TRX-7 (former Roxbury 10)	Develop all-hazards public education and outreach program for hazard mitigation and preparedness.	Existing	All	G-3	County and Municipal OEM	Provide comprehensive education program	\$100,000	NJDEP	Long Term	Med	EAP	PI



Table 9.37-12. Proposed Hazard Mitigation Initiatives

Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category	CRS Category
TRX-8	Permanent emergency generator for Fire Co. No. 2 Annex	Existing	Earthquake, Severe Weather, Severe Winter Weather	G-3	State OEM, Local	Loss of power, heat and use of sanitary facilities	Medium	Grant funding with local cost share	Short Term	High	SIP	PP
TRX-9	Provide solar panel/battery power to NJ State Highway Route 10 at all intersections	Existing	Earthquake, Severe Weather, Severe Winter Weather	G-3	NJDOT	Substantial use of manpower to provide traffic control, minimize traffic disruptions and potential accidents.	Medium	Grant funding from federal and state sources	Short Term	Low	SIP	PP
TRX-10	Provide solar panel/battery power to US Highway Route 46 at all intersections	Existing	Earthquake, Severe Weather, Severe Winter Weather	G-3	NJDOT	Substantial use of manpower to provide traffic control, minimize traffic disruptions and potential accidents.	Medium	Grant funding from federal and state sources	Short Term	Low	SIP	PP
TRX-11	Lamington River Maintenance and Sediment Removal	Existing	Flood, Severe Weather, Severe Winter Weather	G-3	NJDEP, Morris County, Township	Substantial use of manpower to provide traffic control and detours to minimize traffic disruptions and potential accidents.	High	Grant funding from federal and state sources	Long Term	Low	SIP	PP
TRX-12	Drakes Brook Maintenance and Sediment Removal	Existing	Flood, Severe Weather, Severe Winter Weather	G-3	NJDEP, Morris County, Township	Substantial use of manpower to provide traffic control and detours to minimize traffic disruptions and potential accidents.	Medium	Grant funding from federal and state sources	Short Term	Low	SIP	PP



Table 9.37-12. Proposed Hazard Mitigation Initiatives

Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category	CRS Category
TRX-13	Succasunna Brook Maintenance and Sediment Removal	Existing	Flood, Severe Weather, Severe Winter Weather	G-3	NJDEP, Morris County, Township	Substantial use of manpower to provide traffic control and detours to minimize traffic disruptions and potential accidents.	Medium	Grant funding from federal and state sources	Short Term	High	SIP	PP
TRX-14	When updating the master plan, the Township will review the countywide hazard mitigation plan.	N/A	All		Township	Determine if mutual projects exist to coordinate efforts	Low	Local Budget	Ongoing	High	LPR	PR

Notes:

Not all acronyms and abbreviations defined below are included in the table.

*Does this mitigation initiative reduce the effects of hazards on new and/or existing buildings and/or infrastructure? Not applicable (N/A) is inserted if this does not apply.

Acronyms and Abbreviations:

CAV Community Assistance Visit

CRS Community Rating System

DPW Department of Public Works

FEMA Federal Emergency Management Agency

FPA Floodplain Administrator

HMA Hazard Mitigation Assistance

N/A Not applicable

NFIP National Flood Insurance Program

NJDEP New Jersey Department of Environmental Protection

NJOEM New Jersey Office of Emergency Management

OEM Office of Emergency Management

Potential FEMA HMA Funding Sources:

FMA Flood Mitigation Assistance Grant Program

HMGP Hazard Mitigation Grant Program

PDM Pre-Disaster Mitigation Grant Program

RFC Repetitive Flood Claims Grant Program

SRL Severe Repetitive Loss Grant Program

Timeline:

Short 1 to 5 years

Long Term 5 years or greater

OG On-going program

DOF Depending on funding





Costs:

Where actual project costs have been reasonably estimated:

Low	< \$10,000
Medium	\$10,000 to \$100,000
High	> \$100,000

Where actual project costs cannot reasonably be established at this time:

Low	Possible to fund under existing budget. Project is part of, or can be part of an existing on-going program.
Medium	Could budget for under existing work plan, but would require a reapportionment of the budget or a budget amendment, or the cost of the project would have to be spread over multiple years.
High	Would require an increase in revenue via an alternative source (i.e., bonds, grants, fee increases) to implement. Existing funding levels are not adequate to cover the costs of the proposed project.

Mitigation Category:

- Local Plans and Regulations (LPR) – These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.
- Structure and Infrastructure Project (SIP) - These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct manmade structures to reduce the impact of hazards.
- Natural Systems Protection (NSP) – These are actions that minimize damage and losses, and also preserve or restore the functions of natural systems.
- Education and Awareness Programs (EAP) – These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities

CRS Category:

- Preventative Measures (PR) - Government, administrative or regulatory actions, or processes that influence the way land and buildings are developed and built. Examples include planning and zoning, floodplain local laws, capital improvement programs, open space preservation, and storm water management regulations.
- Property Protection (PP) - These actions include public activities to reduce hazard losses or actions that involve (1) modification of existing buildings or structures to protect them from a hazard or (2) removal of the structures from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.
- Public Information (PI) - Actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and educational programs for school-age children and adults.
- Natural Resource Protection (NR) - Actions that minimize hazard loss and also preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.
- Structural Flood Control Projects (SP) - Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, setback levees, floodwalls, retaining walls, and safe rooms.
- Emergency Services (ES) - Actions that protect people and property during and immediately following a disaster or hazard event. Services include warning systems, emergency response services, and the protection of essential facilities

Benefits:

Where possible, an estimate of project benefits (per FEMA's benefit calculation methodology) has been evaluated against the project costs, and is presented as:

Low=	< \$10,000
Medium	\$10,000 to \$100,000
High	> \$100,000

Where numerical project benefits cannot reasonably be established at this time:

Low	Long-term benefits of the project are difficult to quantify in the short term.
Medium	Project will have a long-term impact on the reduction of risk exposure to life and property, or project will provide an immediate reduction in the risk exposure to property.
High	Project will have an immediate impact on the reduction of risk exposure to life and property.



Table 9.37-13. Summary of Prioritization of Actions

Mitigation Action/Project Number	Mitigation Action/Initiative	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
TRX-1 (former Roxbury 1)	Upgrade of Culvert at Hillside Avenue and Route 46 (recent replacement not adequate).	0	1	0	1	0	1	-1	-1	0	0	-0	0	0	0	2	Low
TRX-2 (former Roxbury 4)	Comprehensive Emergency Planning revision for Roxbury Township.	1	1	0	1	0	1	-1	0	1	-1	1	1	0	0	5	Medium
TRX-3 (former Roxbury 5)	Ledgewood Pond Dam Renovation.	0	1	1	1	1	1	1	1	0	-1	0	1	1	1	9	High
TRX-4 (former Roxbury 6)	Rehabilitation of sanitary manholes and mains to decrease storm water infiltration.	0	0	1	1	1	1	1	1	0	-1	-1	1	1	1	7	High
TRX-5 (former Roxbury 7)	Detention basin upgrade located at White Gate Road.	0	1	1	1	1	1	-1	1	0	1	0	1	1	1	9	High
TRX-6 (former Roxbury 9)	Conduct an inundation study of the Lake Hopatcong Dam.	1	1	1	1	0	1	-1	0	-1	-1	1	-1	0	0	2	Medium
TRX-7 (former Roxbury 10)	Develop all-hazards public education and outreach program for hazard mitigation and preparedness.	1	0	0	1	0	1	-1	0	1	-1	1	1	0	0	4	Medium
TRX-8	Permanent emergency generator for Fire Co. No. 2 Annex	1	0	1	1	1	1	1	0	1	1	1	1	1	1	12	High
TRX-9	Provide solar panel/battery power to NJ State Highway Route 10 at all intersections	1	0	1	1	1	1	-1	0	0	-1	0	1	1	0	5	Low
TRX-10	Provide solar panel/battery power to US Highway Route 46 at all intersections	1	0	1	1	1	1	-1	0	0	-1	0	1	1	0	5	Low



Table 9.37-13. Summary of Prioritization of Actions

Mitigation Action/Project Number	Mitigation Action/Initiative	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
TRX-11	Lamington River Maintenance and Sediment Removal	0	0	-1	1	0	1	-1	1	0	-1	0	-1	0	0	-1	Low
TRX-12	Drakes Brook Maintenance and Sediment Removal	0	0	1	1	0	1	-1	1	0	-1	0	1	0	1	4	Medium
TRX-13	Succasunna Brook Maintenance and Sediment Removal	0	0	1	1	1	1	-1	1	0	-1	0	1	1	1	6	High
TRX-14	When updating the master plan, the Township will review the countywide hazard mitigation plan.	1	1	0	1	0	1	1	0	1	1	1	1	0	0	7	High

Note: Refer to Section 6 which contains the guidance on conducting the prioritization of mitigation actions.



9.37.7 Future Needs To Better Understand Risk/Vulnerability

None at this time.

9.37.8 Hazard Area Extent and Location

Hazard area extent and location maps have been generated for the Township of Roxbury that illustrate the probable areas impacted within the municipality. These maps are based on the best available data at the time of the preparation of this plan, and are considered to be adequate for planning purposes. Maps have only been generated for those hazards that can be clearly identified using mapping techniques and technologies, and for which the Township of Roxbury has significant exposure. These maps are illustrated in the hazard profiles within Section 5.4, Volume I of this Plan.

9.37.9 Additional Comments

None at this time.



Figure 9.37-1. Township of Roxbury Hazard Area Extent and Location Map 1

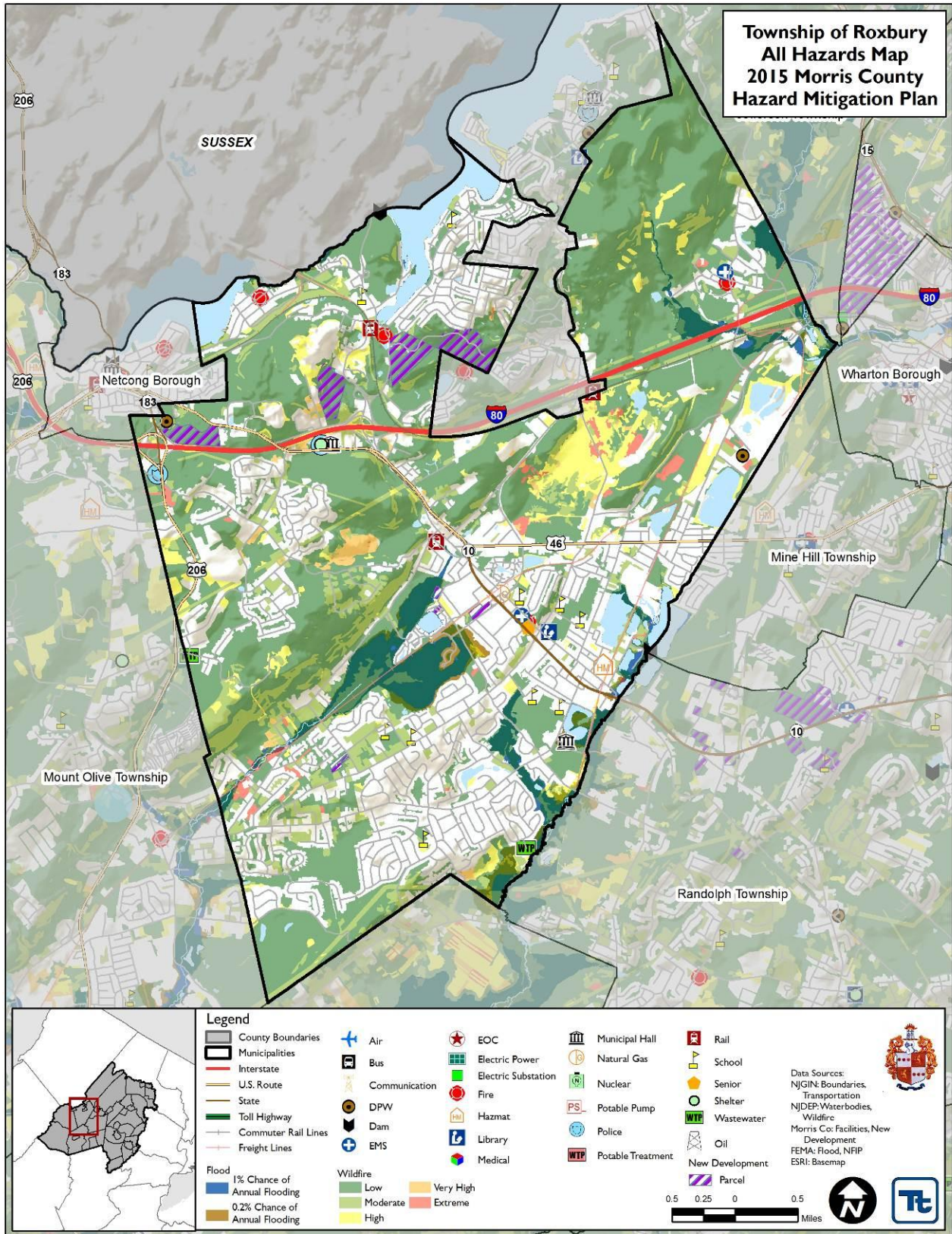
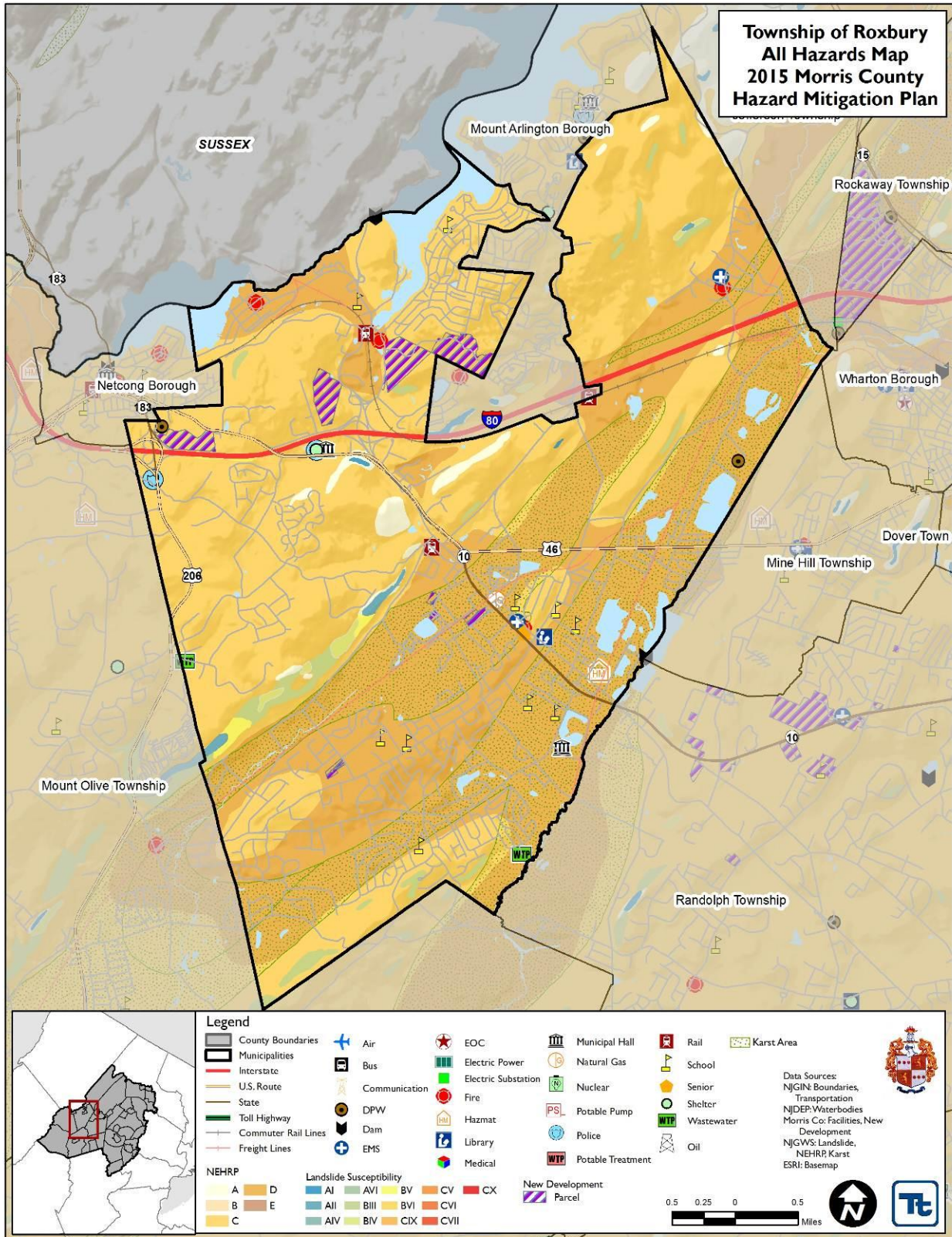




Figure 9.37-2. Township of Roxbury Hazard Area Extent and Location Map 2





Name of Jurisdiction: Township of Roxbury
Action Number: TRX-1 (old Roxbury 1)
Mitigation Action/Initiative: Upgrade of culvert at Hillside Avenue and Route 46

Assessing the Risk	
Hazard(s) addressed:	Flood, Severe Weather, Severe Winter Weather
Specific problem being mitigated:	Inadequately sized culvert
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. Do nothing – problem continues
	2.
	3.
Action/Project Intended for Implementation	
Description of Selected Action/Project	Replace existing culvert with a larger one
Action/Project Category	SIP
Goals/Objectives Met	G-3
Applies to existing, future, or not applicable	Existing
Benefits (losses avoided)	Periodic roadway flooding, loss of travel route
Estimated Cost	High (\$500,000)
Priority*	Low
Plan for Implementation	
Responsible Organization	Township Engineer
Local Planning Mechanism	Morris County
Potential Funding Sources	FMA, PDM-C, and HMGP if available
Timeline for Completion	Long Term
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:

* Refer to results of Prioritization (page 2)



Name of Jurisdiction: Township of Roxbury

Action Number: TRX-1 (old Roxbury 1)

Mitigation Action/Initiative: Upgrade of culvert at Hillside Avenue and Route 46

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	0	
Property Protection	1	
Cost-Effectiveness	0	
Technical	1	
Political	0	
Legal	1	
Fiscal	-1	
Environmental	-1	
Social	0	
Administrative	1	
Multi-Hazard	-1	
Timeline	1	
Agency Champion	0	
Other Community Objectives	0	
Total	2	
Priority (High/Med/Low)	Low	



Name of Jurisdiction: Township of Roxbury
Action Number: TRX-3 (old Roxbury 5)
Mitigation Action/Initiative: Ledgewood Dam Renovation

Assessing the Risk	
Hazard(s) addressed:	Flood, Severe Weather, Severe Winter Weather
Specific problem being mitigated:	Upgrade dam to current NJDEP regulations
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. Do nothing – dam out of compliance with current NJDEP standards
	2.
	3.
Action/Project Intended for Implementation	
Description of Selected Action/Project	Reconstruct existing dam structure
Action/Project Category	SIP
Goals/Objectives Met	G-3
Applies to existing, future, or not applicable	Existing
Benefits (losses avoided)	Upgrade dam to current NJDEP standards and stabilize spillway
Estimated Cost	High (\$300,000)
Priority*	High
Plan for Implementation	
Responsible Organization	Town Engineer
Local Planning Mechanism	Capital Improvement
Potential Funding Sources	NJDEP, USACE
Timeline for Completion	Short Term (3 years)
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:

* Refer to results of Prioritization (page 2)



Name of Jurisdiction: Township of Roxbury
Action Number: TRX-3 (old Roxbury 5)
Mitigation Action/Initiative: Ledgewood Dam Renovation

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	0	
Property Protection	1	
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	
Fiscal	1	
Environmental	1	
Social	0	
Administrative	-1	
Multi-Hazard	0	
Timeline	1	
Agency Champion	1	
Other Community Objectives	1	
Total	9	
Priority (High/Med/Low)	High	



Name of Jurisdiction:	Township of Roxbury
Action Number:	TRX-4 (former Roxbury 6)
Mitigation Action/Initiative:	Rehabilitation of sanitary manholes and mains to decrease storm water infiltration.

Assessing the Risk	
Hazard(s) addressed:	Flood
Specific problem being mitigated:	Eliminate stormwater from the sanitary sewer system which impacts our wastewater treatment plant
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. Do nothing – problem continues
	2.
	3.
Action/Project Intended for Implementation	
Description of Selected Action/Project	Seal manholes, grout joints and repair pipe to eliminate inflow and infiltration
Action/Project Category	SIP
Goals/Objectives Met	G-3
Applies to existing, future, or not applicable	Existing
Benefits (losses avoided)	Reduce flows at our wastewater treatment plant thereby reducing cost regarding treatment and system operations
Estimated Cost	High (\$500,000)
Priority*	High
Plan for Implementation	
Responsible Organization	Town Engineer
Local Planning Mechanism	Capital Improvement
Potential Funding Sources	PDM-C and HMGP
Timeline for Completion	Short Term (5 years)
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:

* Refer to results of Prioritization (page 2)



Name of Jurisdiction: Township of Roxbury
Action Number: TRX-4 (former Roxbury 6)
Mitigation Action/Initiative: Rehabilitation of sanitary manholes and mains to decrease storm water infiltration.

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	0	
Property Protection	0	
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	
Fiscal	1	
Environmental	1	
Social	0	
Administrative	-1	
Multi-Hazard	-1	
Timeline	1	
Agency Champion	1	
Other Community Objectives	1	
Total	7	
Priority (High/Med/Low)	High	



Name of Jurisdiction: Township of Roxbury
Action Number: TRX-5 (former Roxbury 7)
Mitigation Action/Initiative: Detention basin upgrade located at White Gate Road

Assessing the Risk	
Hazard(s) addressed:	Flood & Severe Weathers
Specific problem being mitigated:	Downstream flooding
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. Do nothing – problem continues
	2.
	3.
Action/Project Intended for Implementation	
Description of Selected Action/Project	Reconstruct the detention basin outlet structure and berm
Action/Project Category	SIP
Goals/Objectives Met	G-3
Applies to existing, future, or not applicable	Existing
Benefits (losses avoided)	Erosion due to downstream flooding
Estimated Cost	High (\$150,000)
Priority*	High
Plan for Implementation	
Responsible Organization	Town Engineer
Local Planning Mechanism	Capital Improvement
Potential Funding Sources	FMA, PDM-C and HMGP if available
Timeline for Completion	Short Term (3 years)
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:

* Refer to results of Prioritization (page 2)



Name of Jurisdiction: Township of Roxbury

Action Number: TRX-5 (former Roxbury 7)

Mitigation Action/Initiative: Detention basin upgrade located at White Gate Road

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	0	
Property Protection	1	
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	
Fiscal	-1	
Environmental	1	
Social	0	
Administrative	1	
Multi-Hazard	0	
Timeline	1	
Agency Champion	1	
Other Community Objectives	1	
Total	9	
Priority (High/Med/Low)	High	



Name of Jurisdiction: Township of Roxbury

Action Number: TRX-8

Mitigation Action/Initiative: Permanent Emergency Generator for Fire Co. No. 2 Annex

Assessing the Risk	
Hazard(s) addressed:	Earthquake, Severe Weathers, and Severe Winter Weather
Specific problem being mitigated:	Loss of power and use of sanitary facilities in a portion of the Township
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. Provide portable toilets in Township parks
	2.
	3.
Action/Project Intended for Implementation	
Description of Selected Action/Project	Purchase an emergency generator in order for the annex building to be used as an emergency shelter
Action/Project Category	SIP
Goals/Objectives Met	G-3
Applies to existing, future, or not applicable	Existing
Benefits (losses avoided)	Loss of power, heat and use of sanitary facilities
Estimated Cost	Medium
Priority*	High
Plan for Implementation	
Responsible Organization	
Local Planning Mechanism	Capital Improvement
Potential Funding Sources	Grant funding with local cost share
Timeline for Completion	Short
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:

* Refer to results of Prioritization (page 2)



Name of Jurisdiction: Township of Roxbury

Action Number: TRX-8

Mitigation Action/Initiative: Permanent Emergency Generator for Fire Co. No. 2 Annex

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	
Property Protection	0	
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	
Fiscal	1	
Environmental	0	
Social	1	
Administrative	1	
Multi-Hazard	1	
Timeline	1	
Agency Champion	1	
Other Community Objectives	1	
Total	12	
Priority (High/Med/Low)	High	



Name of Jurisdiction:	Township of Roxbury
Action Number:	TRX-9
Mitigation Action/Initiative:	Provide solar panel/battery power to NJ State Highway Route 10 at all intersections

Assessing the Risk	
Hazard(s) addressed:	Earthquake, Severe Weathers, and Severe Winter Weather
Specific problem being mitigated:	Need for Police Traffic Control
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. Provide Police Traffic Directors
	2.
	3.
Action/Project Intended for Implementation	
Description of Selected Action/Project	Provide alternate power sources for traffic signals to continue to operate during power outages.
Action/Project Category	SIP
Goals/Objectives Met	G-3
Applies to existing, future, or not applicable	Existing
Benefits (losses avoided)	Substantial use of manpower to provide traffic control, minimize traffic disruptions and potential accidents.
Estimated Cost	Medium
Priority*	Low
Plan for Implementation	
Responsible Organization	NJDOT
Local Planning Mechanism	Capital Improvement
Potential Funding Sources	Grant funding from Federal and State Sources
Timeline for Completion	Short
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:

* Refer to results of Prioritization (page 2)



Name of Jurisdiction: Township of Roxbury

Action Number: TRX-9

Mitigation Action/Initiative: Provide solar panel/ battery power to NJ State Highway Route 10 at all intersections

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	
Property Protection	0	
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	
Fiscal	-1	Funding from another source is required
Environmental	0	
Social	0	
Administrative	-1	Outside assistance is necessary
Multi-Hazard	0	
Timeline	1	
Agency Champion	1	
Other Community Objectives	0	
Total	5	
Priority (High/Med/Low)	Low	



Name of Jurisdiction:	Township of Roxbury
Action Number:	TRX-10
Mitigation Action/Initiative:	Provide solar panel/battery power to US Highway Route 46 at all intersections

Assessing the Risk	
Hazard(s) addressed:	Earthquake, Severe Weathers, and Severe Winter Weather
Specific problem being mitigated:	Need for Police Traffic Control
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. Provide Police Traffic Directors
	2.
	3.
Action/Project Intended for Implementation	
Description of Selected Action/Project	Provide alternate power sources for traffic signals to continue to operate during power outages.
Action/Project Category	SIP
Goals/Objectives Met	G-3
Applies to existing, future, or not applicable	Existing
Benefits (losses avoided)	Substantial use of manpower to provide traffic control, minimize traffic disruptions and potential accidents.
Estimated Cost	Medium
Priority*	Low
Plan for Implementation	
Responsible Organization	NJDOT
Local Planning Mechanism	Capital Improvement
Potential Funding Sources	Grant funding from Federal and State Sources
Timeline for Completion	Short
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:

* Refer to results of Prioritization (page 2)



Name of Jurisdiction: Township of Roxbury

Action Number: TRX-10

Mitigation Action/Initiative: Provide solar panel/ battery power to US Highway Route 46 at all intersections

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	
Property Protection	0	
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	
Fiscal	-1	Funding from another source is required
Environmental	0	
Social	0	
Administrative	-1	Outside assistance is required
Multi-Hazard	0	
Timeline	1	
Agency Champion	1	
Other Community Objectives	0	
Total	5	
Priority (High/Med/Low)	Low	

Name of Jurisdiction: Township of RoxburyAction Number: TRX-11Mitigation Action/Initiative: Lamington River Maintenance and Sediment Removal

Assessing the Risk	
Hazard(s) addressed:	Flood, Severe Weathers, and Severe Winter Weather
Specific problem being mitigated:	Need for Police Traffic Control and DPW assistance to detour traffic
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. Provide Police Traffic Directors and DPW assistance
	2.
	3.
Action/Project Intended for Implementation	
Description of Selected Action/Project	Maintain river corridor by removing debris and sediment which is blocking the natural flow of water during high precipitation events.
Action/Project Category	SIP
Goals/Objectives Met	G-3
Applies to existing, future, or not applicable	Existing
Benefits (losses avoided)	Substantial use of manpower to provide traffic control and detours to minimize traffic disruptions and potential accidents.
Estimated Cost	High
Priority*	Low
Plan for Implementation	
Responsible Organization	NJDEP, Morris County, Roxbury Township
Local Planning Mechanism	Capital Improvement
Potential Funding Sources	Grant funding from Federal and State Sources
Timeline for Completion	Long Term
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:

* Refer to results of Prioritization (page 2)



Name of Jurisdiction: Township of Roxbury

Action Number: TRX-11

Mitigation Action/Initiative: Lamington River Maintenance and Sediment Removal

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	0	
Property Protection	0	
Cost-Effectiveness	-1	
Technical	1	
Political	0	
Legal	1	
Fiscal	-1	Funding from other sources is required
Environmental	1	
Social	0	
Administrative	-1	
Multi-Hazard	0	
Timeline	-1	
Agency Champion	0	
Other Community Objectives	0	
Total	-1	
Priority (High/Med/Low)	Low	



Name of Jurisdiction: Township of Roxbury

Action Number: TRX-12

Mitigation Action/Initiative: Drakes Brook Maintenance and Sediment Removal

Assessing the Risk	
Hazard(s) addressed:	Flood, Severe Weathers, and Severe Winter Weather
Specific problem being mitigated:	Need for Police Traffic Control and DPW assistance to detour traffic
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. Provide Police Traffic Directors and DPW assistance
	2.
	3.
Action/Project Intended for Implementation	
Description of Selected Action/Project	Maintain stream corridor by removing debris and sediment which is blocking the natural flow of water during high precipitation events.
Action/Project Category	SIP
Goals/Objectives Met	G-3
Applies to existing, future, or not applicable	Existing
Benefits (losses avoided)	Substantial use of manpower to provide traffic control and detours to minimize traffic disruptions and potential accidents.
Estimated Cost	Medium
Priority*	Low
Plan for Implementation	
Responsible Organization	NJDEP, Morris County, Roxbury Township
Local Planning Mechanism	
Potential Funding Sources	Grant funding from Federal and State Sources
Timeline for Completion	Short Term
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:

* Refer to results of Prioritization (page 2)



Name of Jurisdiction: Township of Roxbury

Action Number: TRX-12

Mitigation Action/Initiative: Drakes Brook Maintenance and Sediment Removal

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	0	
Property Protection	0	
Cost-Effectiveness	1	
Technical	1	
Political	0	
Legal	1	
Fiscal	-1	Funding from another source is required
Environmental	1	
Social	0	
Administrative	-1	Outside assistance is necessary
Multi-Hazard	0	
Timeline	1	
Agency Champion	0	
Other Community Objectives	1	
Total	4	
Priority (High/Med/Low)	Med	



Name of Jurisdiction: Township of Roxbury

Action Number: TRX-13

Mitigation Action/Initiative: Succasunna Brook Maintenance and Sediment Removal

Assessing the Risk	
Hazard(s) addressed:	Flood, Severe Weathers, and Severe Winter Weather
Specific problem being mitigated:	Need for Police Traffic Control and DPW assistance to detour traffic
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. Provide Police Traffic Directors and DPW assistance
	2.
	3.
Action/Project Intended for Implementation	
Description of Selected Action/Project	Maintain stream corridor by removing debris and sediment which is blocking the natural flow of water during high precipitation events.
Action/Project Category	SIP
Goals/Objectives Met	G-3
Applies to existing, future, or not applicable	Existing
Benefits (losses avoided)	Substantial use of manpower to provide traffic control and detours to minimize traffic disruptions and potential accidents.
Estimated Cost	Medium
Priority*	High
Plan for Implementation	
Responsible Organization	NJDEP, Morris County, Roxbury Township
Local Planning Mechanism	
Potential Funding Sources	Grant funding from Federal and State Sources
Timeline for Completion	Short Term
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:

* Refer to results of Prioritization (page 2)



Name of Jurisdiction: Township of Roxbury

Action Number: TRX-13

Mitigation Action/Initiative: Succasunna Brook Maintenance and Sediment Removal

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	0	
Property Protection	0	
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	
Fiscal	-1	Funding from another source is required
Environmental	1	
Social	0	
Administrative	-1	Outside assistance is necessary
Multi-Hazard	0	
Timeline	1	
Agency Champion	1	
Other Community Objectives	1	
Total	6	
Priority (High/Med/Low)	High	